

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Status of Claims:

No claims are currently being canceled.

Claims 1-3, 7-15 and 17 are currently being amended.

Claims 18 and 19 are currently being added.

This amendment and reply adds, cancels and amends claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claims remain under examination in the application, is presented, with an appropriate defined status identifier.

After adding, canceling and amending the claims as set forth above, claims 1-3 and 5-19 are now pending in this application.

Specification Amendments:

The specification has been amended to correct two minor grammatical errors found therein. No new matter has been added.

Objection to the Title:

In the Office Action, the title of the invention was objected to because it was not descriptive of the claimed invention. By way of this amendment and reply, a more descriptive title is being submitted.

Claim Objections:

In the Office Action, claim 12 was objected to because a term in that claim lacked proper antecedent basis. By way of this amendment and reply, claim 12 has been amended accordingly.

Claim Rejections – Prior Art:

In the Office Action, claims 1-3 and 6-17 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,404,510 to Nakajima; and claim 5 was rejected under

35 U.S.C. § 103(a) as being unpatentable over Nakajima. These rejections are traversed with respect to the presently pending claims under rejection, for at least the reasons given below.

Nakajima discloses a chopper-amplifying unit that amplifies the counter electromotive force caused by an impact. As now recited in presently pending independent claim 1, an impact detecting unit detects an impact applied externally based on an output signal level of a counter electromotive force generated by a step motor. See, for example, Figure 5 of the drawings and paragraph [0042] of the specification. The detection of the impact, in which a controlling unit controls a signal line of a driving unit for driving the step motor to be open in a non-hand-driven state, are features that are not disclosed or suggested by Nakajima.

Accordingly, presently pending independent claim 1 is not anticipated by Nakajima.

With respect to the rejection of dependent claim 10, please note that since the operation of the motor becomes unstable if a driving pulse is output immediately after the open state, the stable points are provided before and after the output of the driving pulse (see Figure 8 and the corresponding description of that figure in the specification). Such features as recited in claim 10 are not disclosed or suggested by Nakajima.

With respect to the rejection of dependent claim 2, the Office Action asserts that element 24 as shown in Figure 3 of Nakajima corresponds to the claimed chopper-amplifying unit. Applicants respectfully disagree. Namely, column 4, lines 30-51 of Nakajima describes that reference numeral 24 is a driving circuit that includes two P channel MOS transistors 24a, 24b, and two N channel MOS transistors 24c, 24d, whereby drawings of the MOS transistors 24a, 24c are connected with each other, and drains of the MOS transistors 24b, 24d are connected with each other. Nowhere does Nakajima state that his driving circuit 24 corresponds to a chopper-amplifying unit, as explicitly recited in presently pending independent claim 1.

Accordingly, for the reasons given above, dependent claim 1 is not anticipated by Nakajima.

Furthermore, with respect to dependent claim 12, which recites that the impact detecting unit includes an impact detecting resistor configured to detect a counter electromotive force from the pulse motor at the time of the impact, the Office Action incorrectly asserts that Figures 10(1) to 10(4) of Nakajima show resistors that are a part of an impact detecting unit. Rather, as described in column 6, lines 19-24 of Nakajima, Figures

10(1) to 10(4) show different configurations of a driving circuit 24 that drives a stepper motor (see Figure 3 of Nakajima, for example), whereby a driving circuit clearly cannot correspond to an impact detecting unit. Namely, a driving circuit 24 supplies a driving signal to a stepper motor, whereby an impact detecting unit receives an output from the stepper motor. Clearly, these are two different features, whereby a feature of a driving circuit cannot be argued to be part of an impact detecting circuit.

Therefore, for the reasons given above, dependent claim 12 is not anticipated by Nakajima.

Also, with respect to dependent claim 15, that claim recites “a detecting resistor used commonly for the impact detecting resistor and the load compensation resistor, wherein the impact detecting unit and the load compensating unit are configured to detect an impact and load compensation using the detecting resistor.” Thus, in claim 15, a single resistor is used as both an impact detecting device and a load compensating device. As discussed above with respect to claim 12, Figures 10(1) to 10(4) of Nakajima shows resistors as part of a driving circuit, whereby these resistors clearly are not used for load compensation or for impact detection. Column 3, lines 1-18 of Nakajima describes a shock detection circuit 6, whereby no mention of the use of a resistor in such a circuit is described in this portion of Nakajima.

Therefore, for the reasons given above, dependent claim 15 is not anticipated by Nakajima.

New Claims:

New dependent claims 18 and 19 have been added to recite additional features of the present invention. For example, see the description on page 26, line 27 to page 27, line 1 with respect to the features recited in new claim 19. New dependent claims 18 and 19 are believed to patentably distinguish over the cited art of record due to the specific features recited in these new claims, beyond the reasons given above for their base claim.

Conclusion:

Since all of the issues raised in the Office Action have been addressed in this Amendment and Reply, Applicants believe that the present application is now in condition for allowance, and an early indication of allowance is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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